

TITLE 326 AIR POLLUTION CONTROL BOARD

Proposed Rule as Preliminarily Adopted

LSA Document #05-197

DIGEST

Amends 326 IAC 8-5-1 concerning rule applicability. Adds 326 IAC 8-5-6 concerning VOC emissions from phenolic-urethane cold-box core making processes using amine gas to catalyze the adhesive binder. Adds 326 IAC 8-5-7 concerning VOC emissions from fuel grade ethanol production operations classified as dry mills. Effective 30 days after filing with the Publisher.

HISTORY

First Notice of Comment Period: August 1, 2005, Indiana Register (28 IR 3355).

Second Notice of Comment Period and Notice of First Hearing: May 1, 2006, Indiana Register (29 IR 2674).

Date of First Hearing: August 2, 2006.

326 IAC 8-5-1

326 IAC 8-5-6

326 IAC 8-5-7

SECTION 1. 326 IAC 8-5-1 IS AMENDED TO READ AS FOLLOWS:

326 IAC 8-5-1 Applicability of rule

Authority: IC 13-14-8; IC 13-17-3

Affected: IC 13-14-8-7; IC 13-17-1; IC 13-17-3

Sec. 1. ~~326 IAC 8-5 pertaining to miscellaneous operations shall apply~~ **This rule applies to the following:**

(1) Facilities or sources existing as of January 1, 1980, of the types described in ~~326 IAC 8-5-2~~ **section 2 of this rule** and facilities or sources existing as of November 1, 1980, of the types described in ~~326 IAC 8-5-3, 326 IAC 8-5-4, and 326 IAC 8-5-5,~~ **sections 3 through 5 of this rule** located in **the following counties:**

(A) Clark.

(B) Elkhart.

(C) Floyd.

(D) Lake.

(E) Marion.

(F) Porter. ~~and~~

(G) St. Joseph. ~~Counties; and~~

(2) Sources or facilities, construction of which commences after January 1, 1980, of the types described in ~~326 IAC 8-5-2~~ **section 2 of this rule** and sources or facilities, construction of which commences after November 1, 1980, of the types described in ~~326 IAC 8-5-3, 326 IAC 8-5-4, and 326 IAC 8-5-5~~ **sections 3 through 5 of this rule** located anywhere in the state.

(3) Any asphalt paving application made after January 1, 1980. ~~shall be regulated by this rule (326 IAC 8-5).~~

(4) Facilities or sources, construction of which commences after January 1, 2007, of the types described in sections 6 and 7 of this rule located anywhere in the state.

(Air Pollution Control Board; 326 IAC 8-5-1; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2543; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477)

SECTION 2. 326 IAC 8-5-6 IS ADDED TO READ AS FOLLOWS:

326 IAC 8-5-6 Phenolic-urethane cold-box core making processes

Authority: IC 13-14-8; IC 13-17-3

Affected: IC 13-14-8-7; IC 13-17-1; IC 13-17-3

Sec. 6. (a) This section applies to phenolic-urethane cold-box core making processes constructed or modified after January 1, 2007, that:

- (1) use amine gas to catalyze the adhesive binder; and**
- (2) have potential VOC emissions of twenty-two and seven-tenths (22.7) megagrams (twenty-five (25) tons) or more per year.**

(b) The following definitions apply throughout this section:

- (1) “Amine gas” means a gas used to catalyze the phenolic-urethane resin binder.**
- (2) “Phenolic-urethane cold-box core making process” means a core production line**

that:

- (A) includes one (1) or more core machines and the mixer; and**
- (B) produces cores through the binding of sand and other inorganic particles through the use of binding adhesives containing solvents.**

(c) Total nonamine volatile organic compound emissions from phenolic-urethane cold-box core making processes shall not exceed five-hundredths (0.05) pound per pound of resin.

(d) The owner or operator of a phenolic-urethane cold-box core making process shall install, and operate at all times the core machine is in operation, an amine gas scrubber system that maintains a capture efficiency of one hundred percent (100%) and:

- (1) maintains an amine gas destruction efficiency of ninety-nine percent (99%); or**
- (2) results in an outlet amine gas concentration less than one (1) part per million by volume.**

(e) To ensure and verify initial and continuing compliance with the control efficiency requirement, the source shall monitor and maintain records of the following, using the test methods outlined in 40 CFR 63, Subpart EEEEE*:

(1) The flow rate of the amine gas scrubber verifying that the three (3) hour average flow rate, as measured by a continuous parameter monitoring system, does not fall below the minimum level established during the most recent compliance demonstration.

(2) The pH of the scrubber solution to ensure that the:

- (A) three (3) hour average pH of the scrubber solution, as measured by a continuous parameter monitoring system, does not exceed 4.5; or**

(B) pH of the scrubber solution, as measured once every eight (8) hours during process operation, does not exceed 4.5.

***This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. (Air Pollution Control Board; 326 IAC 8-5-6)**

SECTION 3. 326 IAC 8-5-7 IS ADDED TO READ AS FOLLOWS:

326 IAC 8-5-7 Fuel grade ethanol production at dry mills

Authority: IC 13-14-8; IC 13-17-3

Affected: IC 13-14-8-7; IC 13-17-1; IC 13-17-3

Sec. 7. (a) As follows, this section applies to fuel grade ethanol production plants constructed or modified after January 1, 2007, that:

- (1) Are dry mills and have no wet milling operations.**
- (2) Use fermentation, distillation, and dehydration to produce ethanol and dried distillers grain and solubles (DDGS).**
- (3) Have combined potential VOC emissions of twenty-two and seven-tenths (22.7) megagrams (twenty-five (25) tons) or more per year from the following processes:**
 - (A) Fermentation, distillation, and dehydration.**
 - (B) DDGS dryer or dryers.**
 - (C) Ethanol load-out operations.**

(b) The following definitions apply throughout this section:

- (1) “Dry mill” means an ethanol production operation that uses the whole corn kernel to produce a meal that is then used to produce alcohol. The byproduct of a dry mill is the DDGS.**
- (2) “Fuel grade ethanol production plant” means an operation that produces ethanol that is then denatured with a denaturant to make it unfit for human consumption.**
- (3) “Wet milling” means a process by which corn is soaked or steeped to soften the corn kernel so that it can be separated into its various components, such as the following:**
 - (A) Gluten.**
 - (B) Germ.**
 - (C) Protein.**
 - (D) Fiber.**
 - (E) Starch.**

(c) The owner or operator of a fuel grade ethanol production plant that is a dry mill shall install and operate at least one (1) of the following control devices for VOC emissions from the plant:

- (1) A thermal oxidizer with a capture efficiency of one hundred percent (100%) and an overall control efficiency of not less than ninety-eight percent (98%) or resulting in a volatile organic compound concentration of not more than ten (10) parts per million (ppm).**

(2) A wet scrubber with a capture efficiency of one hundred percent (100%) and an overall control efficiency of not less than ninety-eight percent (98%) or resulting in a volatile organic compound concentration of not more than twenty (20) parts per million (ppm).

(3) An enclosed flare with a capture efficiency of one hundred percent (100%) and an overall control efficiency of no less than ninety-eight percent (98%).

(d) The owner or operator of a fuel grade ethanol production plant that is a dry mill shall ensure and verify initial and continuing compliance with the control efficiency requirement by doing the following:

(1) If using a thermal oxidizer, the owner or operator shall do the following:

(A) Continuously monitor the operating temperature of the oxidizer to ensure that the three (3) hour average temperature, as measured by a continuous temperature monitor, is greater than or equal to the minimum temperature established during the most recent compliance demonstration.

(B) Maintain continuous temperature records for the thermal oxidizer and the three (3) hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(C) Monitor the duct pressure or fan amperage once per day to ensure that the three (3) hour average duct pressure or fan amperage, as measured by a continuous parameter monitoring system, is within the normal range established during the most recent compliance demonstration.

(D) Maintain daily records of the duct pressure or fan amperage for the thermal oxidizer.

(2) If using a wet scrubber, the owner or operator shall do the following:

(A) Monitor the pressure drop of the scrubber at least once per day when the associated emission unit is in operation to ensure that the pressure drop across the scrubber is within the normal range established during the latest stack test.

(B) Monitor the scrubber flow rate at least once per day when the associated emission unit is in operation to ensure that the flow rate of the scrubber is greater than the minimum flow rate established during the latest stack test.

(C) Maintain daily records of pressure drop and flow rate for the scrubber during normal operation.

(3) If using an enclosed flare, the owner or operator shall do the following:

(A) Continuously monitor the presence of a flare pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame when the associated emission unit is in operation.

(B) Maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when the loading rack is in operation.

(Air Pollution Control Board; 326 IAC 8-5-7)